

**Notice of Allowability**

Application No.

10/075,142

Examiner

Jennifer Doan

Applicant(s)

GREENE ET AL.

Art Unit

2874

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed on 08/18/03.
2. ☒ The allowed claim(s) is/are 1-20 and 22-32.
3. ☒ The drawings filed on 02/14/2002 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All b) ☐ Some\* c) ☐ None of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- \* Certified copies not received: \_\_\_\_\_.
5. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
  - (a) ☐ The translation of the foreign language provisional application has been received.
6. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE**

7. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
8. ☐ CORRECTED DRAWINGS must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No. \_\_\_\_\_.
  - (b) ☐ including changes required by the proposed drawing correction filed \_\_\_\_\_, which has been approved by the Examiner.
  - (c) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No. \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet.

9. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |   |
|--|---|
| 1 <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                             | 2 <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)          |
| 3 <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                    | 4 <input type="checkbox"/> Interview Summary (PTO-413), Paper No. _____.            |
| 5 <input type="checkbox"/> Information Disclosure Statements (PTO-1449), Paper No. _____.              | 6 <input checked="" type="checkbox"/> Examiner's Amendment/Comment                  |
| 7 <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | 8 <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
|  | 9 <input type="checkbox"/> Other _____.   |

**EXAMINER'S AMENDMENT AND STATEMENT OF REASONS FOR ALLOWANCE**

***Examiner's amendment***

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Jon P. Christensen on October 7, 2003.

The application has been amended as follows:

Cancel claim 21.

In claim 20, line 11, after "...the alignment fixture", please delete ".", and insert – **wherein the step of aligning the substrate to the fixture further comprises providing a plurality of passive alignment guide pins in the alignment fixture and inserting the plurality of passive alignment guide pins through a respective plurality alignment apertures in the substrate. --**

In claim 22, line 1, please delete "21" and insert – **20 --**.

In claim 26, line 3, please delete "means" and insert -- **a first optical recognition module --**.

In claim 26, line 4, please delete "means" and insert -- **a second optical recognition module --**.

**Reasons for allowance**

2. The following is an examiner's statement of reasons for allowance:

The prior art of record fails to disclose or reasonably suggest an apparatus and a method of aligning an optical array with a substrate comprising **aligning the substrate with a set of alignment structures on an alignment fixture**; transmitting a plurality of optical signals from the fixture through the aligned substrate; determining a location of the transmitted optical signals and the optical array; **aligning the optical array to the substrate based upon the determined locations of the transmitted plurality of optical signals and optical array using a pick and place machine**; further **identifying a first plurality of registration marks** in the alignment fixture **with a first optical recognition module** and **identifying a second plurality of registration marks** on the optical array **with a second optical recognition module** as recited in claims 1, 11, 20 and 26.

The examiner agrees with applicants' arguments on pages 2 and 3 in the remarks accompanying the amendment of August 18, 2003, and fully concurs that the Wickman et al. reference does not disclose or suggest the highlighted limitations above.

The newly cited references, Moisel (U.S. Patent 6,236,788) discloses an arrangement, which permits a simple and precise alignment of optical components to each other; however, Moisel does not disclose or suggest the highlighted limitations above.

Ukechi et al. (U.S. Patent 6,324,314) disclose an optical hybrid integrated device having a first substrate with a semiconductor optical element and alignment marks and a second substrate with an optical waveguide and alignment marks formed on the second substrate (as shown in Fig. 3); nevertheless, Ukechi et al. do not explicitly teach an optical module used to identify the alignment marks on the first and second substrates for aligning and attaching the first and second substrates. Thus, the Ukechi reference also fails to disclose or suggest the highlighted limitations above.

Claims 1-20 and 22-32 are therefore allowed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

3. Any inquiry concerning the merits of this communication should be directed to Examiner Jennifer Doan whose telephone number is (703) 308-6179. The examiner can normally be reached on Monday to Friday from 6:00am to 3:30pm, second Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick, can be reached on (703) 308-4819. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7724.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

*Jennifer Doan*

JD

October 8, 2003

*John D. Lee*  
John D. Lee  
Primary Examiner